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A NOTE ON THE TREATMENT

OF

VITREOUS OPACITIES

WITH THE

FLUID EXTRACT OF JABORANDI.

BY

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A Note on the Treatment of Vitreous Opacities with the Fluid Extract of Jaborandi.

DR. JAMES A. SPALDING contributes an excellent practical paper on idiopathic vitreous hemorrhages in the *Archives of Ophthalmology* for April, 1892,† and, together with other recommendations, describes the treatment of this affection as follows: "In the first place, I should put hypodermic use of pilocarpine, hydrochlorate or nitrate. This is to be given in $\frac{1}{12}$ grain doses, once a day, for two weeks. Perhaps fewer doses may do as well. If any dose produces weakening effects upon the heart, then the next dose may be decreased or omitted for two days. In case no visible effect is produced, the dose may go as high as $\frac{1}{6}$, although I have never seen the need of more than $\frac{1}{10}$. It is not necessary to produce visible physiological effects for the remedy to be useful to the eye. It may also be given by the mouth, though it is not so efficacious when thus administered. The fluid extract of jaborandi may be substituted, but it is more disagreeable to take than the alkaloid."

The following cases, illustrating various types of vitreous disease, accompanied by

hemorrhagic or other type of opacity, and favorably modified by the administration of small doses of the fluid extract of jaborandi or the nitrate of pilocarpine, are reported in confirmation of Dr. Spalding's indorsement of this drug.

CASE I.—*Vitreous Opacities in the Left Eye, Hemorrhagic in Origin.*—Mrs. P., aged 65 years, with incipient cortical cataract and some woolliness of the choroid, after the correction of a simple hypermetropic astigmatism, obtained an acuity of vision $= \frac{5}{7.5}$ in each eye. On the third of June, 1891, she noted a mist before the left eye. There was no pain and no external manifestation of trouble. On examination the vision of the right eye was found to be $\frac{6}{6}$—, rather better than it had been when the original correction was made, three years before. In the left eye the vision was barely $\frac{6}{15}$. There was an extremely dim view of the fundus, owing to a dense haze in the posterior layer of the vitreous; the vessels which could be seen appeared to be tortuous and darker than normal. With + 7 D numerous large, dark, string-like opacities were visible in the anterior layers of the vitreous humor. Locally, the sulphate of eserine, $\frac{1}{24}$ of a grain to the ounce, was ordered, and internally, the fluid extract of jaborandi, 10 drops three times a day. Nine days later the patient expressed herself as seeing better with the left eye, although with test-types there was no improvement in vision, and the ophthalmoscopic appearances were about the same as at the original examination. The treatment was continued, and seventeen days later the

vision in the left eye had risen to $\frac{6}{9}$, the entire vitreous humor had practically cleared, and the dark clots were represented by fine, floating opacities. The patient has not reported in person since this time, but has sent word on several occasions that the eye continues in a satisfactory condition.

CASE II.—*Vitreous Hemorrhage; Thrombosis of the Upper Temporal Vein and Retinal Hemorrhages.*—Thomas S., aged 73, on the 23d of May, 1891, suddenly appreciated a dark spot before the left eye, and that all objects had a very much blurred outline. There was no pain, and there had been no previous illness. In the right eye the pupil was prompt, the disk oval, with its upper and inner edges hazy, and containing a shallow, dish-like excavation. There was slight milkiness of the central portion of the lens, and one dark, floating, vitreous opacity. In the left eye only a dim view of the fundus was possible. The vitreous contained numerous web-like opacities, dark-colored, like clots of blood. The disk could be faintly seen, and its upper and inner edges appeared veiled and the vessels tortuous. The vision was $\frac{6}{15}$. The temporal arteries were hard, the second sound of the heart accentuated, and with Heller's test there was a distinct reaction of albumin. Locally, eserine was ordered, and internally the fluid extract of jaborandi, 10 minims three times a day. At the end of six days the vision was $\frac{6}{12}$ and the vitreous much clearer. Two weeks later the vision was still $\frac{6}{12}$, but there was now a clear view of the fundus. The upper temporal vein was collapsed in its course over the disk and for

some distance beyond its margin, and beyond this point was unevenly beaded, and on each side of it there were several irregularly-shaped retinal hemorrhages. In two weeks from this date the vision had risen to $\frac{6}{9}$. There were still a few large, floating opacities, but the retinal hemorrhages had absorbed. The patient was seen once after this, and expressed himself as feeling entirely comfortable and unannoyed by the dark spots before his eyes.

CASE III.—*High Myopic Astigmatism; Vitreous Opacities of the Right Eye, probably Hemorrhagic in Origin, following an Attack of Influenza.*—Mrs. W., aged 55; has always been myopic, having begun the use of glasses at the age of 11. When first seen, with the best correction, her vision in each eye was $\frac{6}{9}$. The ophthalmoscope revealed slightly irregular disks, with myopic crescents and some absorption of the pigmented epithelium. After a siege of nursing, followed by a severe attack of bronchitis, which was diagnosticated as a pulmonary type of *la grippe*, she observed, preceded by a number of flashes of colored light, numerous floating spots before the right eye and dimness of vision. The ophthalmoscope showed, in addition to a few striæ in the lens, numerous, rather fine, dark-colored floating vitreous opacities. At first the patient was given iodide of sodium, which she did not take very well. The vision sank to $\frac{6}{12}$ partially, and then, in addition to the small doses of the previously-mentioned drug, fluid extract of jaborandi was ordered, and nitrate of pilocarpine locally (a twentieth of a grain to the ounce). This treatment was continued

for nearly a month, when the vision had risen to $\frac{6}{7.5}$, and, although the patient still complained bitterly of the floating spots before her eyes, the vitreous had materially cleared, and those opacities which remained had lost their former dark color.

CASE IV.—*Vitreous Opacities of the Right Eye, Inflammatory in Origin; Later an Attack of "Quiet Iritis."*—Mrs. W., aged 58, has always suffered from severe headaches, usually confined to the region of the right eye and the right side of the head, but unassociated with nausea, and apt to come on in the afternoon. There has been no recent illness, but the patient is anæmic and has never been very strong. In the right eye, with the best possible correction of an astigmatism contrary to the rule, the vision was $\frac{6}{9}$. There were numerous, large, floating, web-like vitreous opacities. The optic disk was gray, but there was no visible choroiditis or retinal change. In the left eye there was a healthy fundus, and with the correction of a slight astigmatism, contrary to the rule, the vision was $\frac{6}{6}$. Five-grain doses of iodide of potassium were ordered, and slowly the vision of the right eye rose to $\frac{6}{7.5}$.

In January of this year there was an attack of *la grippe* of mild nature, associated with some increase in the vitreous opacities. Fluid extract of jaborandi was given, after the convalescence from the influenza was complete, in the dose previously mentioned. At the end of two weeks there was distinct clearing of the vitreous, but numerous opacities could still be found. Four days later, unassociated with pain, a faint, pericorneal injection appeared,

there was some discoloration of the iris, and several soft synechiæ were evident at the lower and inner margin of the pupil. Under the influence of repeated instillations of an atropine solution and the use of iodide of potassium, these were torn loose, and the pupil became round. With the iritis, however, the vitreous opacities materially increased. A relapse of this iritic complication occurred two months later, and again the vitreous opacities increased in amount. During the interval between the two attacks of iritis the patient had been taking a drachm dose of the elixir of the succinate of iron, without, however, influencing the opacities. After the second attack of iritis, which, in fact, amounted only to a hyperæmia of the iris, had passed away, the patient was put upon the nitrate of pilocarpine, a $\frac{1}{24}$ of a grain three times a day. This produced slight sweating, and the dose was reduced to $\frac{1}{48}$ grain. In two weeks very material improvement occurred, and the vision returned to its best previous acuity,—namely, $\frac{6}{7.5}$. This case is still under observation and is doing well.

Case V.—*Vitreous Opacities, probably Inflammatory in Origin, associated with Moderate Myopia.*—Mrs. W., aged 35, has been myopic from childhood. Since the birth of her last baby, two and a half years ago, she has suffered much with her eyes,—ciliary neuralgia, asthenopia, some photophobia, and at times general headache. In the right eye there was an oval disk, no crescent, the upper and lower margins veiled, the choroid woolly, but no absorption of the pigmented epithelium. In the left eye there was a similar disk, but less disturbance of the eye-

ground. In each eye, but most marked in the right, there were numerous, fine, web- and string-like, floating vitreous opacities of the usual color seen in myopic eyes. It is probable that they existed more or less from the date of the birth of the child before mentioned, and may have been associated with retino-choroidal changes at that time, as the labor had been a difficult one, followed by some puerperal complication, the exact nature of which is not clear. With the best correction the vision in each eye was $\frac{6}{9}$.

The patient was put upon iodide of sodium and the fluid extract of jaborandi, and, locally, eserine was employed. Gradually the eyes improved, and at the end of three weeks of treatment she expressed herself as better than she had been for two years. The asthenopia had subsided, the vitreous was clearer, the vision was $\frac{6}{6}$ in each eye, and moderate reading was readily accomplished; in fact, it was probably overdone, for during a siege of domestic trouble, during which she was obliged to unduly exert herself, and probably unduly use her eyes, there was a relapse, so far as the asthenopia was concerned, but without any demonstrable increase in the vitreous opacities. Under the influence of the treatment these opacities had materially decreased, although it was always possible to see some faint threads by examining the vitreous chamber with a + 16 D. This case is at present under treatment, and again improving under the same measures.

These cases will suffice to illustrate the value of small doses of the fluid extract of jaborandi, or, as Dr. Spalding prefers, of

small doses of the nitrate of pilocarpine. As he has pointed out, it is quite unnecessary to produce visible physiological effects; in fact, this is a disadvantage. In my experience the value of the remedy consists in an effect just short of the production of diaphoresis. On the other hand, in nearly every case, one of the physiological actions of small doses of jaborandi became manifest,—namely, a decided increase in the quantity of the urine during the twenty-four hours. It is difficult to state exactly how the remedy acts, except, perhaps, by taking refuge in the term "alterative."

I would like to call attention in this connection to the value of weak solutions of eserine as a local measure. The well-known influence of this drug in relieving accommodative asthenopia is one reason for its employment, but there is another,—namely, that eyes with vitreous disease, especially when hemorrhagic in origin, are not without danger of passing into a glaucomatous state, or, at all events, into a state associated with increased intraocular tension. Thus there is a definite physiological reason for its employment. Be this as it may, however, the value of the drug in connection with the other remedies seems undoubted.

Under many circumstances it is advisable to use pilocarpine in vitreous disease for its full physiological effect. It is not the intention to refer to cases of this character at present; they belong to quite a different chapter in ocular therapeutics.

Some of the cases were treated in conjunction with small doses of iodide of potassium

and iodide of sodium, and no doubt the alterative influence of these drugs may have added to the efficacy of the treatment; but, on the whole, I am inclined to ascribe the good results to the jaborandi, and I would always try it, at least for a week or two, either with the iodides or by itself. In the event of failure, other more vigorous measures are indicated,—full doses of iodide of potassium; if the patient's nutrition will permit it, free diaphoresis; and perhaps the use of inunctions of mercury. It is understood that syphilitic cases are excluded from this list. If this diathesis is present, the natural and rational treatment is indicated.

It is worth while to call attention to one point,—namely, the uselessness of the succinate of iron. Whether it really exerts the beneficial influence which has been ascribed to it in synchisis scintillans, I cannot say. My own experience does not lead me to think that it does.